

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the subject application. The Office Action of October 7, 2003 has been received and contents carefully reviewed.

Claims 1-57 are currently pending in the present application.

In the Office Action, the Examiner rejects claim 57 under 35 U.S.C. §112, first paragraph. The Examiner rejects claims 1-5, 7-22, 24, 26, 29-33, 35-50, 52, and 54 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,608,556 to Koma, in view of U.S. Patent No. 6,139,926 to Auman et al. The Examiner rejects claims 27-28 and 55-56 under 35 U.S.C. § 103(a) as being unpatentable over Koma in view of Auman further in view of U.S. Patent No. 5,757,455 to Sugiyama et al. The Examiner rejects claims 6 and 34 under 35 U.S.C. § 103(a) as being unpatentable over Koma in view of Auman further in view of Applicants' Related Art. The Examiner rejects claims 23 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Koma in view of Auman further in view of U.S. Patent 6,141,074 to Bos et al. The Examiner rejects claims 51 and 52 under 35 U.S.C. § 103(a) as being unpatentable over Koma in view of Auman further in view of U.S. Patent 5,936,692 to Van De Witte.

With regard to the rejection of claim 57, Applicants amend claim 57. Accordingly, Applicants respectfully request the Examiner withdraw the rejection of claim 57.

With regard to the rejection of claims under 35 U.S.C. §103(a), Applicants respectfully traverse these rejections. Claims 1 and 29 are allowable over the cited references in that claims 1 and 29 recite a combination of elements including, for example, "a photo-alignment layer having a pre-tilt angle on at least one of the first and second substrates... wherein at least one of the alignment directions is determined by the photo-alignment layer irradiated by a light." None of the cited references, singly or in combination, teaches or suggests at least this feature of the claimed invention. Accordingly, Applicants respectfully submit that claims 1 and 29, and claims 2-28 and 30-56, which depend therefrom respectively, are allowable over the cited references. More particularly, the Applicants respectfully submit that there is no motivation for one of ordinary skill to combine the cited references and arrive at the claimed invention with any

reasonable expectation of success.

For example, the Examiner acknowledges that “Koma does not disclose a photo alignment on at least one of the first and second substrates”. (Office Action, October 7, 2003, page 3). Koma describes an orientation film 23, but indicates that “rubbing treatment of the orientation film is not required” (Koma, column 6, lines 14-15).

Applicants respectfully submit that, as best understood, the vertical alignment status of the liquid crystal molecules in Koma is mainly determined by the liquid crystal and the alignment layer used, but not by an alignment treatment as recited in claim 1. In other words, the alignment layer in Koma does not have a pre-tilt angle controlled by a conventional alignment process, such as the rubbing or photo alignment process.

The Examiner cites Auman to supply this deficiency in Koma. However, one of ordinary skill in the art at the time of the invention would not have been motivated to combine Koma and Auman. In particular, because Koma does not employ any alignment treatment, and in particular does not require rubbing, there would have been no motivation to combine Koma with Auman, which describes a photo alignment process (Auman, Abstract).

The Examiner alleges that it is possible to treat the alignment layer in Koma with one of conventional alignment processes such as a rubbing process, but doing so would undermine one of the inventive principles of Koma, namely, the elimination of the alignment treatment process. Accordingly, Applicants respectfully submit that the Examiners’ citation of Auman et al., describing using a photo alignment process rather than a rubbing process, actually teaches away from the teaching of Koma, which teaches no alignment treatment. Sugiyama, Applicants’ Related Art, Bos, and Van De Witte do not teach, disclose, or suggest at least this feature, nor does the Examiner allege that they do. Thus, Applicants respectfully submit that independent claims 1 and 29 are allowable.

Applicant believes the foregoing amendments place the application in condition for allowance and early, favorable action is respectfully solicited. If the Examiner deems that a telephone conference would further the prosecution of this application, the Examiner is invited to call the undersigned attorney at the telephone number (202) 496-7500. All correspondence

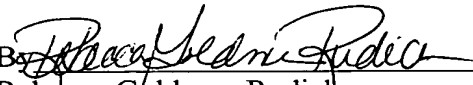
should continue to be sent to the below-listed address.

Applicant believes the foregoing amendments place the application in condition for allowance and early, favorable action is respectfully solicited. If the Examiner deems that a telephone conference would further the prosecution of this application, the Examiner is invited to call the undersigned attorney at the telephone number (202) 496 - 7500. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911.

Dated: December 30, 2003

Respectfully submitted,


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